

WE CLAIM:

1. A method of transmitting a field
comprising:
 - 5 generating a map for the field, wherein the map indicates the number of E-VSB segments and VSB segments in the field;
 - inserting the map into the field;
 - inserting E-VSB data into the E-VSB segments of
10 the field;
 - inserting VSB data into VSB segments of the field, wherein at least one of the VSB data and the E-VSB data includes audio data;
 - limiting the audio data in the at least one of
15 the VSB data and the E-VSB data to a predetermined data rate in response to the corresponding VSB data rate or E-VSB data rate being below a predetermined threshold; and,
 - transmitting the field.
- 20 2. The method of claim 1 wherein the predetermined data rate comprises 192 kbps.
3. The method of claim 1 wherein the predetermined threshold comprises 2.98 Mbps.

4. The method of claim 1 wherein the predetermined threshold comprises 5.97 Mbps.

5 5. The method of claim 1 wherein the predetermined data rate comprises 192 kbps, and wherein the predetermined threshold comprises 2.98 Mbps.

6. The method of claim 1 wherein the
10 predetermined data rate comprises 192 kbps, and wherein the predetermined threshold comprises 5.97 Mbps.

7. The method of claim 1 wherein the predetermined data rate comprises 192 kbps, wherein the
15 predetermined threshold comprises 2.98 Mbps for a first packing pattern of the VSB and E-VSB segments in the field, and wherein the predetermined threshold comprises 5.97 Mbps for a second different packing pattern.

20 8. The method of claim 1 wherein the E-VSB data segments comprise first and second E-VSB segments, and wherein the first and second E-VSB segments contain E-VSB data coded at two different E-VSB coding rates.

9. A method of recovering data from a signal comprising:

receiving the signal containing a field;

demodulating the received signal to develop a

5 demodulated signal containing a map indicating the number
of E-VSB segments and VSB segments in the field, wherein
the E-VSB segments contain E-VSB data, wherein the VSB
data segments contain VSB data, wherein the VSB data
includes audio data, and wherein the audio data is
10 limited to a predetermined data rate in response to a VSB
data rate below a predetermined threshold;

de-formatting the field according to the map so
as to separate the VSB segments and the E-VSB segments;
and,

15 processing the VSB data in the separated VSB
segments in a VSB processor, the processing including
buffering the VSB data in a buffer having a size which,
in conjunction with the limit of the predetermined data
rate, reduces audio jitter.

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10. The method of claim 9 wherein the
predetermined data rate comprises 192 kbps.

11. The method of claim 9 wherein the
predetermined threshold comprises 2.98 Mbps.

12. The method of claim 9 wherein the
5 predetermined threshold comprises 5.97 Mbps.

13. The method of claim 9 wherein the
predetermined data rate comprises 192 kbps, and wherein
the predetermined threshold comprises 2.98 Mbps.
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14. The method of claim 9 wherein the
predetermined data rate comprises 192 kbps, and wherein
the predetermined threshold comprises 5.97 Mbps.

15 15.) The method of claim 9 wherein the
predetermined data rate comprises 192 kbps, wherein the
predetermined threshold comprises 2.98 Mbps for a first
packing pattern of the VSB and E-VSB segments in the
field, and wherein the predetermined threshold comprises
20 5.97 Mbps for a second packing pattern of the VSB and E-
VSB segments in the field.

16. The method of claim 9 wherein the E-VSB data segments comprise first and second E-VSB data segments, and wherein the first and second E-VSB data segments contain data coded at two different E-VSB coding rates.

17. The method of claim 9 wherein the VSB data includes video data, and wherein the processing of the VSB data in the separated VSB segments in a VSB processor comprises:

demultiplexing the audio and video data;
buffering the video data in a video buffer;
decoding the buffered video data;
buffering the audio data in a first audio
15 buffer having a size matching a maximum allowable jitter;
buffering the audio data from the first audio
buffer in a second audio buffer that is larger than the
first audio buffer; and,
decoding the audio data buffered in the second
20 audio buffer.

18. The method of claim 17 wherein the first audio buffer comprises a 512 byte buffer.

19. The method of claim 9 wherein the processing of the VSB data in the separated VSB segments in a VSB processor comprises:

buffering the audio data in a first audio
5 buffer having a size matching a maximum allowable jitter;

buffering the audio data from the first audio buffer in a second audio buffer that is larger than the first audio buffer; and,

decoding the audio data buffered in the second
10 audio buffer.

20. The method of claim 19 wherein the first audio buffer comprises a 512 byte buffer.

15 21. The method of claims 9 further comprising processing the E-VSB data in the separated E-VSB segments in an E-VSB processor.

22. A receiver for recovering data from a
20 signal comprising:

a tuner arranged to tune to the signal containing a field;

a demodulator arranged to demodulate the received signal to develop a demodulated signal

containing a map indicating the number of E-VSB segments
and VSB segments in the field, wherein the E-VSB segments
contain E-VSB data, wherein the VSB data segments contain
VSB data, wherein the VSB data includes audio data, and
5 wherein the audio data is limited to a predetermined data
rate in response to a VSB data rate below a predetermined
threshold;

a segment de-formatter arranged to de-format
the field according to the map so as to separate the VSB
10 segments and the E-VSB segments; and,

a processor arranged to process the VSB data in
the separated VSB segments in a VSB processor, wherein
the processor includes a buffer having a size which, in
conjunction with the limit of the predetermined data
15 rate, reduces audio jitter.

23. The receiver of claim 22 wherein the
predetermined data rate comprises 192 kbps.

20 24. The receiver of claim 22 wherein the
predetermined threshold comprises 2.98 Mbps.

25. The receiver of claim 22 wherein the
predetermined threshold comprises 5.97 Mbps.

26. The receiver of claim 22 wherein the predetermined data rate comprises 192 kbps, and wherein the predetermined threshold comprises 2.98 Mbps.

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27. The receiver of claim 22 wherein the predetermined data rate comprises 192 kbps, and wherein the predetermined threshold comprises 5.97 Mbps.

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28. The receiver of claim 22 wherein the predetermined data rate comprises 192 kbps, wherein the predetermined threshold comprises 2.98 Mbps for a first packing pattern of the VSB and E-VSB segments in the field, and wherein the predetermined threshold comprises 5.97 Mbps for a second packing pattern of the VSB and E-VSB segments in the field.

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29. The receiver of claim 22 wherein the E-VSB data segments comprise first and second E-VSB data segments, and wherein the first and second E-VSB data segments contain data coded at two different E-VSB coding rates.

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30. The receiver of claim 22 wherein the VSB data includes video data, and wherein the processor comprises:

a demultiplexer arranged to demultiplex the
5 audio and video data;

a video buffer arranged to buffer the video data;

a video decoder arranged to decode the buffered video data;

10 a first audio buffer arranged to buffer the audio data, wherein the first audio buffer has a size matching a maximum allowable jitter;

a second audio buffer arranged to buffer the audio data from the first audio buffer, wherein the
15 second audio buffer is larger than the first audio buffer; and,

an audio decoder arranged to decode the audio data buffered in the second audio buffer.

20 31. The receiver of claim 30 wherein the first audio buffer comprises a 512 byte buffer.

32. The receiver of claim 22 wherein the processor comprises:

a first audio buffer arranged to buffer the audio data, wherein the first audio buffer has a size
5 matching a maximum allowable jitter;

a second audio buffer arranged to buffer the audio data from the first audio buffer, wherein the second audio buffer is larger than the first audio buffer; and,

10 a decoder arranged to decode the audio data buffered in the second audio buffer.

33. The receiver of claim 32 wherein the first audio buffer comprises a 512 byte buffer.

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34. The receiver of claims 22 further comprising an E-VSB processor arranged to process the E-VSB data in the separated E-VSB segments.